

REMARKS

Claims 1-18 are pending in this application, of which claims 1-7 and 9-17 have been allowed and claims 8 and 18 have been rejected. Acknowledgement is made with appreciation of the indication of allowable subject matter in claims 1-7 and 9-17. Claims 1-18 will remain pending in this application. The Examiner is respectfully requested to reconsider and withdraw the outstanding objection(s) and rejection(s) in view of the remarks contained herein.

OBJECTION

The abstract of the disclosure has been objected to because it improperly uses the term “comprises”. Accordingly, the phrase “The apparatus comprises” in line 3 of the abstract has been amended to read --The apparatus includes-- as suggested by the Examiner. As such, Applicants respectfully request withdrawal of this objection.

REJECTION UNDER 35 U. S. C. § 102

Claims 8 and 18 were rejected under 35 U. S. C. § 102(e) as allegedly anticipated by Tokuyama (US 6,324,309). Applicants respectfully submit that this rejection is traversed without the need for substantive changes in the claims, based on the following remarks.

Original claim 8 recites at least the following patentably distinguishable features, namely a (second) judgment circuit for: “judging whether or not the object pixel belongs to the thin line image area on the basis of a magnitude relationship between the first direction density difference sum and the second direction density difference sum”. Similarly, method claim 18 recites “performing a second judgment process” that makes the same determination regarding the object

pixel in terms of the first and second density difference sums. Tokuyama fails to teach or suggest at least these features and the resulting benefits.

According to Applicants, Tokuyama discloses, to those of ordinary skill in the art, a system for calculating the degrees of discreteness C_E , C_S , C_{SE} , and C_{SW} with respect to four directions, E-direction, S-direction, SE-direction and SW-direction. Applicants understand that the degrees of discreteness in the E-direction, for example, are calculated as follows: for all combinations of two adjoining pixels in the E-direction (lateral direction) within a 5x5 block, the difference in density between pixels is calculated, and then the sum of the differences is calculated to obtain a degree of discreteness. See, for example, Tokuyama's specification col. 7, lines 3-11. Applicants further understand that a similar calculation is performed for the each of the remaining directions.

Unlike their invention of claims 8 and 18, Applicants submit that, among the resulting degrees of discreteness in Tokuyama's four directions, Tokuyama applies only the minimum value to determine whether the target pixel belongs to the character region, a photographic region, or a screen region (see Tokuyama's specification col. 8, lines 6-29). That is, in Tokuyama, the relationship between the "maximum density difference ($D_{\max} - D_{\min}$)" and the "minimum degree of discreteness ($\min(C_E, C_S, C_{SE}, \text{ and } C_{SW})$)" is used to determine the regions to which the target pixel belongs (as illustrated in Fig. 7 of Tokuyama). However, no relationship among the degrees of discreteness in the four directions is reflected in the region determination. As such, Applicants submit that Tokuyama fails to disclose a means (claim 8), or a method (claim 18) requiring judging whether or not the object pixel belongs to the thin line image area on the basis of a magnitude relationship between the first direction density difference sum (designated in the description of Applicants' preferred exemplary embodiments as H_SUM)

and the second direction density difference sum (designated as V_SUM in the preferred embodiments' description).

Hence, Applicants respectfully submit that Tokuyama fails to inherently or explicitly disclose each and every feature of the present invention as set forth in claims 8 and 18. As such, Applicants submit that these claims are not anticipated under 35 U.S.C. §102, and rather are in condition for allowance with the other allowed claims.

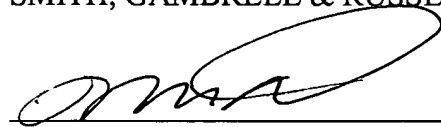
CONCLUSION

Applicants respectfully submit that this Amendment and the above remarks obviate the outstanding objection and rejection in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees under 37 C. F. R. §§ 1.16 or 1.17 are due in connection with this filing, please charge the fees to Deposit Account No. 02-4300, Order No. 032739M056.

Respectfully submitted,
SMITH, GAMBRELL & RUSSELL, LLP

By:


Michael A. Makuch, Reg. No. 32,263
1850 M Street, N.W., Suite 800
Washington, D.C. 20036
Telephone: (202) 263-4300
Facsimile: (202) 263-4329

Dated: December 21, 2004